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UNCLASSIFIED SOVIET BLOC INTERNATIONAL  
GEOPHYSICAL YEAR INFORMATION  
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INFORMATION ON SOVIET BLOC INTERNATIONAL GEOPHYSICAL COOPERATION — 1959

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PLEASE NOTE

This report presents unevaluated information on Soviet-Bloc activities in the International Geophysical Cooperation program from foreign-language publications as indicated in parentheses. It is published as an aid to United States Government research.

"INTERNATIONAL GEOPHYSICAL COOPERATION" PROGRAM --

SOVIET-BLOC ACTIVITIES

Table of Contents

	<u>Page</u>
I. General	1
II. Rockets and Artificial Earth Satellites	5
III. Upper Atmosphere	8
IV. Seismology	11
V. Arctic and Antarctic	11

I. GENERAL

Conference of East European-Asian Countries for Continued IGY Investigations Held in Moscow

The Fifth Assembly of CSAGI held in Moscow in 1958 accepted a resolution for continuing operations according to the IGY program for 1959. This new period of scientific investigations was named International Geophysical Cooperation -- 1959.

A conference of the representatives of countries, participants in the International Geophysical Year belonging to the European-Asian group, was opened in the conference hall of the Presidium of the Academy of Sciences USSR on 4 February. Prominent scientists of the USSR, Poland, Hungary, the German Democratic Republic, the Mongolian People's Republic, the People's Republic of China, Czechoslovakia, Yugoslavia, and Bulgaria took part in its work.

Prof Yu. D. Bulanzhe, secretary of the special committee for the countries of Eastern Europe and Asia, and vice-president of the Soviet Committee for the Conduct of the IGY, opened the conference. Prof Bulanzhe affirmed the positive value of the work conducted by the scientists of various countries and emphasized that in 1959 the scientific investigations will be conducted according to the earlier developed international program. The possibility is presented to the countries themselves to determine the extent of their participation in the program and the disciplines according to which the scientific investigations will be conducted.

Yu. Bulanzhe noted that the conference must discuss the problems concerning the joint processing of the results of simultaneous observations conducted in 1957-1958, to examine the possibilities of technical mutual assistance of the scientists of different countries, and to determine the prospects of scientific cooperation and joint investigations of scientists. ("Conference on International Geophysical Cooperation"; Moscow, Izvestiya, 5 Feb 59, p 6)

Table of Contents of Polish Geophysical Journal

The Polish journal Acta Geophysica Polonica, Vol 6, No 3, 1958, is devoted to the coverage of IGY materials. Its contents are as follows:

"Some Remarks About the Results of the Observations of [OI]-5577 Night-glow at Sacramento Peak in 1955," by Ludwik Kiszka, Institute of Geophysics of the Polish Academy of Sciences and Astronomical Observatory of the Warsaw University, pp 197-204; in English.

"The General Problem of a Conducting Wedge," by Roman Teisseyre, Institute of Geophysics of the Polish Academy of Sciences, pp 205-221; in English.

"Determination of the Magnitude of Distant Earthquakes at the Silesian Geophysical Station in Raciborz," by Zofia Droste and Slawomir Gibowicz, Institute of Geophysics of the Polish Academy of Sciences, pp 222-235; in English.

"Distribution of Radiation of a Wave Length 0.5 microns Over a Sky Covered by a Thick Cloud Layer," (provisional report), by Jan Slomka, Bialowieza, pp 236-242; in English.

"Study on Natural and Artificial Radioactive Contamination of Air and Water," by Ignacy Adamczewski, Chair II of Physics of the Gdansk Polytechnicum, Physics Institute of the Medical Academy at Gdansk, pp 243-259; Polish; summary in French.

"Scientific Notes on the Relationship Between Focus Dimensions and Earthquake Magnitude," by Roman Teisseyre, Institute of Geophysics, Polish Academy of Sciences, pp 260-261; in English.

"Visual Observations of Aurorae in Poland in 1957," by Stefania Kosibowa, Wroclaw Astronomical Observatory, pp 262-263; in English.

"Fourth Conference of the European Commission of Seismology of the International Association of Seismology and the Physics of the Interior of the Earth, at Utrecht, 1958," by Bobr-Modrakowa and R. Teisseyre, Institute of Geophysics, Polish Academy of Sciences, Warsaw, pp 264-267; Polish.

"Resolutions of the Fourth Conference of the European Commission of Seismology of the International Association of Seismology and the Physics of the Interior of the Earth Held at Utrecht, 1958," pp 268-269; Polish.

"Fifth CSAGI Conference, Moscow, 30 July to 9 August 1958," by Roman Teisseyre, Institute of Geophysics, Polish Academy of Sciences, pp 270-271; Polish.

"Comparative Measurements Made by Means of QHM 240, 241, 242, at the Swider, Niemegk, and Rude Skov Observatories," by Zdzislaw, Institute of Geophysics, Polish Academy of Sciences, pp 272-288 and 306; Polish; English summary.

"The Vietnamese Polish Magnetic Station in Cha-Pa," by Mieczyslaw Kozlowski, Joint Chairs of Geophysics of the Warsaw University, pp 289-291; Polish.

"The Vietnamese-Polish Seismic Station at Phu-Lien," by Jozef Hordejuk, Institute of Geophysics, Polish Academy of Sciences, pp 292-295; Polish.

"The Vietnam-Polish Aerological Station in Cha-Pa," by Krzysztof Homan, Joint Chairs of Geophysics of the Warsaw University, pp 296-298; Polish.

"The Vietnamese-Polish Meteorological Station at Cha-Pa," by Kazimierz Stefanicki, State Institute of Hydrology and Meteorology, pp 299-302; Polish.

"Measurements of Elements of Atmospheric Electricity Carried Out at Cha-Pa," by Stanislaw Michnowski, Institute of Geophysics, Polish Academy of Sciences, and Kazimierz Stefanicki, Polish Institute of Hydrology and Meteorology, pp 303-304; Polish. (Acta Geophysica Polonica, Vol 6, No 3, 1958, Warsaw)

#### Polish IGY Operations in Vietnam

The Polish scientific periodical Acta Geophysica Polonica, Vol 6, No 3, 1958, contains 5 articles describing joint Vietnamese-Polish IGY scientific investigations in Vietnam.

The first deals with the magnetic station in Cha-Pa. The station has been operating since 1 September 1957 under the joint direction of the Institute of Geophysics, Warsaw University, and the Vietnam Meteorological Service. The station is located in the Annamite Cordillera at the foot of the mountain of Phan-Si-Pan (3142 meters) and consists of three bamboo huts. The geographical coordinates are 22 20 N and 103 50 E. Altitude of the station is 1,570 meters above sea level. The equipment consists of instruments loaned by the Polish Academy of Sciences: an Askania No 51 variograph, a magnetic theodolite, a Mating and Wiesenbergs earth inductor, and a La Cour type magnetometer. The station was set in operation by M. Koslowski, the author, and Cz. Krolkowski. It is now under the guidance of Nguyen Khua and Nguyen-go-Thau. The stations conducts daily measurements of magnetic storms ("The Vietnamese-Polish Magnetic Station in Cha-Pa," by Mieczyslaw Kozlowski Institute of Geophysics, Polish Academy of Sciences, pp 289-291 and page 307) [See Part V of this report, "Polish Scientific Expedition to Antarctica"].

The former French observatory at Phu-Lien, destroyed by war operations, was rebuilt by the joint effort of the Polish IGY expedition headed by Prof R. Teisseyre and the Vietnamese IGY Committee under Prof Nguyen-Xien. The seismic station (106 37 44 E, 20 48 22 N, altitude 90 meters) is equipped with three type S-57 scismographs, with recorders, and a set of U-57 type galvanometers. The station was placed in operation by J. Hordejuk, Institute of Geophysics of the Polish Academy of Sciences, 15 August 1957, who prepared the Bulletin Seismologique, No 1, covering the period from August to December 1957. During 5 months the station recorded 138 earthquakes, 70 percent of which were in the vicinity of the Solomon Islands, the Philippines, Japan, and Kamchatka. Five of the earthquakes recorded were within 80 kilometers of the station. A monthly bulletin is published by the station. In charge of the station at present is S. Gibowicz, Institute of Geophysics of the Polish Academy of Sciences. ("The Vietnamese-Polish Seismic Station at Phu-Lien," by Jozef Hordejuk, Institute of Geophysics of the Polish Academy of Sciences, pp 292-295)

The Vietnamese-Polish aerological station in Sha-Pa is located on a hill near the Muong Han Ho River (22 21 N, 103 50 E, altitude 1,578 above sea level). The station is equipped with radiosondes and a radio theodolite. The personnel includes one Polish scientist, two Vietnamese scientists, and five observers. Regular radiosonde operations are conducted despite adverse weather conditions. ("The Vietnamese-Polish Aerological Station in Cha-Pa," by Krzysztof Haman, Joint Chairs of Geophysics, Warsaw University, pp 296-298)

The Vietnamese-Polish meteorological station at Cha-Pa is located at 22 21 N and 103 49 E. Included among the equipment are 5 meteorological screens with thermometers, temperature, humidity, and evaporation recorders; 4 rain meters; 2 heliographs; wind meters; actinometers; radiation recorders; barometers; and barographs. ("The Vietnamese-Polish Meteorological Station at Cha-Pa, by Kazimierz Stefanicki, State Institute of Hydrology and Meteorology, pp 299-302)

The fifth and last article describes measurements of atmospheric electricity carried out at Cha-Pa. The station conducts measurements of the potential gradient near the Earth's surface, of the amount of ions in the air, the conductivity of the air and the mobility of ions in the air. The measurements were organized by K. Stefanicki according to instructions by S. Michnowski. The equipment originated at the Institute of Geophysics of the Polish Academy of Sciences. ("Measurements of the Elements of Atmospheric Electricity Carried Out at Cha-Pa," by Stanislaw Michnowski, Institute of Geophysics of the Polish Academy of Sciences, and Kazimierz Stefanicki, Polish Institute of Hydrology and Meteorology, pp 303-304) (Moscow, Acta Geophysica Polonica, Vol 6, No 3, 1958)

## II. ROCKETS AND ARTIFICIAL EARTH SATELLITES

### Soviet Scientist Discusses Possibility of Sighting Cosmic Rocket

The first artificial planet built by Man has been placed in the solar system as a result of the launching of the Soviet cosmic rocket toward the Moon. In contrast to the first artificial earth satellites flying within the limits of the Earth's atmosphere, the artificial planet encounters almost no resisting medium and will therefore exist many millions of years.

There is little likelihood that the new planet will encounter large comets or meteorites which would destroy it, or that the rocket will at some future time collide with the Earth, even though their orbits intersect.

The closest approaches of the rocket to the Earth are possible at the points of intersection of their orbits. However, it should be remembered that the periods of their rotation around the Sun do not coincide. The period of rotation for the artificial planet being 450 days, while that for the Earth is 365.24 days. In the year when the Earth will pass through the point of intersection, the rocket will be 200 million kilometers from the Earth and will arrive at this point of intersection only 85 days afterwards, when the Earth will already be far away. The time of nearest approach of the rocket to the Earth will be in 5 years.

Will it be possible to observe the artificial planet during these approaches?

In answer to this, A. N. Dadayev, scientific secretary of the Main Astronomical Observatory at Pulkovo, says that photography may be used for again observing the artificially created planet from the Earth during its approaches. Since the rocket moves similarly to planets among the stars of the sky, its path will be registered on the plate of a telescope-astrograph, and its image will be in the form of a streak of light.

The light of the Moon hindered photographic observations of the cosmic rocket's flight during its launch. Near the Moon, the rocket appeared as a star of the 15-16th magnitude. For photographing it, using the usual astrographs, an exposure time of 30-40 minutes with average sensitivity of plates would have been necessary, but this would have resulted in overexposure of the plate.



The distance of the artificial planet from the Earth during a favorable approach will consist of about one million kilometers. At such a distance, it will appear as a star of the 18th magnitude. Photographing by means of powerful astrographs will produce a line on a plate. It is necessary to foresee the difficulties of future observations of the artificial plant, but apparently it will be possible to observe it. Experiments with electron optical converters show that the use of multicascade systems produces a great gain in the brightness of the astronomical objects being observed. This makes it possible to hope for the success of the observations.

What would observations of the Soviet artificial planet reveal if we were able to observe it? First of all, says Dadayev, we would be able to define its orbital change due to perturbations from the planets much more precisely. In addition, observation of a body entering the composition of the solar system at a distance so near the Earth would permit a more precise determination of the astronomical unit, the mean distance from the Earth to the Sun.

Thus the cosmic rocket as the first direct explorer of cosmic space can also be of great scientific value in the future. ("Will It Be Possible To See the Soviet Artificial Planet?" by A. N. Dadayev, scientific secretary of the Main Astronomical Observatory at Pulkovo, Candidate of Physico-mathematical Sciences; Moscow, Sovetskaya Aviatsiya, 31 Jan 59, p 4)

#### Bochum Observatory Again Reports Mystery Signals On Soviet Satellite Wave Length

Technicians of the Bochum Public Observatory, near Essen, have picked up new signals on the frequency used by the Soviet satellites, according to a statement by a spokesman for the observatory, who pointed out the possibility that the Soviets may have sent up a new satellite. The Bochum Observatory picked up the signals, which differ from those broadcast by Sputnik III, on 4 February between 1908 and 1918 hours and between 2050 and 2100 hours. During the last week end, the same observatory had picked up radio signals on a frequency of 20.05 megacycles four different times. The signals (Morse letters a-a-l in rapid succession) were picked up at intervals of 10<sup>4</sup> minutes, each time several minutes after the end of Sputnik III's signals. ("Have the Russians Tried a New Satellite?" Brussels, La Libre Belgique, 6 Feb 59)

Moscow Exhibition Features Rocket and Satellite Displays

An exhibition on the Progress of the National Economy of the USSR opened in Moscow on 11 February. The short but brilliant history of the development of rocket engineering in the Soviet Union is reflected in the main displays of the Science pavilion. Full-scale models of the Soviet artificial earth satellites and the scientific apparatus which they carried are exhibited. ("Exhibition of the Progress of the National Economy of the USSR Opens"; Moscow, Sovetskaya Aviatsiya, 12 Feb 59, p 4)

### III. UPPER ATMOSPHERE

#### Magnetic Storm Warning System Aids Radio Communication

The use of magnetic storms for predicting the disruption of radio communication is mentioned by R. Afonina, chief of the geomagnetic group, Institute of Terrestrial Magnetism, Academy of Sciences USSR, in an article on the nature of magnetic storms in the ionosphere.

Afonina says that scientists are already able to forecast the probability of the appearance of magnetic storms on the Earth and thereby able to predict the dependability of radio communication. At present, establishments conducting radio communication make use of information on the state of the Earth's magnetic field. The information obtained from magnetic observatories, together with information from ionospheric stations, make it possible to transfer instantly to suitable long radio waves and ensure uninterrupted communication with any point on the globe. ("Magnetic Storms in the Ionosphere," by R. Afonina, chief of the geomagnetic group, Institute of Terrestrial Magnetism, Academy of Sciences USSR; Moscow, Sovetskaya Aviatsiya, 31 Jan 59, p 4)

#### Expanded Plenum of the Commission on Radio Astronomy

The Plenum of the Commission on Radio Astronomy under the Astronomical Council (Astrosoviet), Academy of Sciences USSR, was held at the facilities of the Astronomical Institute imeni Shternberg from 26 to 30 November 1957. The results of the development of Soviet radio astronomy during the last 2 1/2 years was presented.

In value, the plenum was the equal of the All-Union Conference on Problems of Radio Astronomy. More than 50 reports on the various divisions were heard: problems on apparatus and methods of radio astronomical investigations, the radio emission of the Sun and Moon, the investigation of galactic and metagalactic radio emissions, and the investigation of the upper layers of the Earth's atmosphere by radio astronomical methods. The leading organizations in the Soviet Union in which work in the field of radio astronomy was conducted were represented at the plenum.

Academician A. I. Berg delivered the address opening the session. In his speech, A. I. Berg, noted the achievements of Soviet radio astronomy and outlined the principal paths for overcoming the difficulties still standing in the way of the development of this young branch of scientific knowledge.

The first day of the plenum was devoted to the discussion of the methods and apparatus for radio astronomical investigations.

The creation of big radio telescopes is of prime importance for the future development of fruitful scientific research. V. A. Sanamyan's (Byurakan) report on the building in Armenia of an antenna system of parabolic cylinders with a large effective area intended for studying localized sources of cosmic radio emission aroused great interest. This system will be placed in operation in the very near future at comparatively low costs.

Information on large radio telescopes already operating was presented in the reports, "Large Radio Telescope of the Main Astronomical Observatory for Centimeter Waves," by S. E. Khaykin and N. L. Kaydanovskiy (GAO [Main Astronomical Observatory] Pulkovo); and "Radio Telescope of the KE FIAN (Chair of Electronics, Physics Institute Academy of Sciences), with a Diameter of 31 Meters," by V. V. Vitkevich and V. A. Udal'tsov (FIAN).

Successes were undoubtedly achieved in the development of new methods and the creation of highly sensitive receiving apparatus. The study of the polarizing properties of radio emission from cosmic sources is of great value at present. Reports from the FIAN and the GAO on new apparatus for investigating the polarization of the Sun's radio emissions in the millimeter and centimeter wave range were heard in the plenum.

Problems on the investigation of solar radio emission were discussed on 27 November. These problems are of great value in connection with the study of processes in the Earth's atmosphere in the plan of work of the IGY. Short period bursts of radio emission from the Sun were successfully studied (KE FIAN radio spectrograph). The distribution of radio emission of the Sun's disk in the 3 and 10 centimeter waves were studied in detail on the large radio telescopes at the FIAN (V. V. Vitkevich, A. Ye. Salomonovich and V. A. Udal'tsov). V. V. Vitkevich obtained interesting results on the nature of the Sun's supercorona by a "penetration" method of the corona by strong discrete sources of radio emission.

Mechanism of the unbalanced radiation of the Sun in the radio range were discussed in three reports by V. V. Zheleznyakov, NIRFI (Nauchno-Issledovatel'skiy Radiofizicheskiy [Gor'kovskiy Universitet], Institute-Scientific Research Radiophysics [Gor'kiy University]).

The 28 November session was devoted to problems of the cosmic radiation of the Galaxy and the metagalaxy. Important data were obtained according to the investigation of the polarization of radiation of cosmic sources (NIRFI, FIAN).

The investigation of the extensive spherical gas systems in our galaxy and other galaxies (the so-called "coronal" galaxies) is of great interest to astrophysicists. I. S. Shklovskiy explained the theoretical results significative of the nonstationary character of the gaseous corona galaxies in his report.

The idea of the great role of relativistic electrons as sources of nonthermal cosmic radio emission was stressed in the reports, "Magnetic Retardation and the Mechanism of Nonthermal Cosmic Radiation," by G. G. Getmartsev (NIRFI), and "The Diffusion of Cosmic Electrons and the Spectrum of the Radio Emission of the Galaxy," by S. I. Syrovatskiy (FIAN).

Problems on the application of radio astronomical methods for the study of the upper layers of the Earth's atmosphere were discussed in the reports presented at the 29 November session.

The progress of radio astronomical work according to the IGY plan was discussed in the closing sessions on 29 and 30 November, and the plan of work for 1958 was approved. A resolution outlining the principal direction of the development of work in the future was accepted:

1. Theoretical investigation of the nature and the mechanism of unbalanced radio emission.
2. Investigation of the radio emission of a perturbed Sun.
3. Investigation of radio emission from the Galaxy and discrete sources, chiefly of the polarization and spectral composition of the radio emission, and also the determination of the sizes of the sources and the distribution of the radio emittance.
4. Investigation of the atmosphere by radio astronomical methods.

The wholly insufficient development of work on the investigation of the radio emission of interstellar hydrogen was noted by the plenum. ("Expanded Plenum of the Commission on Radio Astronomy," by G. A. Leykin, Moscow, Astrosovet, Academy of Sciences USSR, Mar 58; Moscow, Astronomicheskii Tsirkular, No 190, 27 Mar 58, pp 28-29)

#### IV. SEISMOLOGY

##### Seminar on Study of Surface Seismic Waves

Sessions of an expanded seminar of the Division on Seismology and the Seismic Service of the Institute of the Physics of the Earth Academy of Sciences USSR on the results of investigations of surface seismic waves were held in the Institute of the Physics of the Earth, Academy of Sciences USSR, from 9 to 11 December 1957. Representatives of the academies of sciences of the Georgian SSR, Uzbek SSR, and the Moscow State University took part in the work of the seminar. Twelve reports and lectures were presented. ("Expanded Seminar of the Division of Seismology and the Seismic Service of the Institute of the Physics of the Earth, Academy of Sciences USSR, Devoted to the Study of Surface Seismic Waves," by V. M. Arkhangel'skaya; Moscow, Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, No 12, Dec 58, pp 1522-1529)

#### V. ARCTIC AND ANTARCTIC

##### Preparations for Spring

The Arctic and Antarctic Institute has studied the work plan for the first year of the Seven-Year Plan. Scientific research will include huge areas of the polar regions both in the Northern and Southern hemispheres. Thousands of polar specialists will take part in this work. Many of the investigations to be conducted by the Institute come under the program of the IGC -- 1959.

At the onset of spring, a high-latitude aerial expedition will leave from Moscow and Leningrad for the Arctic. In addition to conducting scientific research, the members of this expedition will replace the staffs at the drift stations Severnyy Polyus-6 and Severnyy Polyus-7. The polar workers who have spent a year at these stations will return home. The new staffs will continue the study of the Central Arctic Basin.

The members of the high-latitude aerial expedition will continue the installation of radio beacons and automatic radiometeorological stations on drifting ice. These stations will help obtain important data for the preparation of weather forecasts for ships and planes.

Ships of the ice patrol, including Toros, Polyarnik, and others, will conduct oceanographic work and ice reconnaissance in the Laptev Sea, Kara Sea, East Siberian Sea, and Chukchee Sea. Regular ice reconnaissance will be carried out along the Northern Sea Route. One of the Polar Aviation airplanes is specially equipped as a "flying laboratory." Information on weather and ice will be transmitted from the plane to the captains of icebreakers and transport ships. ("When Spring Arrives"; Moscow, Vodnyy Transport, 24 Jan 59)

#### Severnnyy Polyus-6

The circumference of the Severnnyy Polyus-6 ice island is more than 33 kilometers. The thickness of the ice island is 9-12 meters, or about the height of a three-story house.

Scientists estimate that the ice island will continue to serve science for another 4 years, or even more, until such time as the sea currents and winds will carry it out into the Atlantic Ocean.

A number of scientists on the island have wintered here before, including Yevgeniy Vinogradov and Nikolay Pen'yevskiy, aerologists; Nikolay Bryazgin, meteorologist; and Nikolay Ovchinnikov, radioman. All of these are working at the station for the second winter. Bryazgin has worked in the Arctic since 1947. He wintered at Mys Billingsa, at the Shilakskiy lighthouse, and in Pevek. Ovchinnikov spent 2 years at Mys Shmidt, after graduating from an Arctic school; he was then chief of the polar station at Mys Billingsa for several years and later went to work at Severnnyy Polyus-6. Pen'yevskiy has been in the Arctic for 10 years. Yevgeniy Vinogradov, aerologist, who is party organizer at Severnnyy Polyus-6, has also been in the Arctic a long time. ("Aboard the Floating Island"; Moscow, Komsomol'skaya Pravda, 5 Dec 58)

#### Severnnyy-Polyus-7

Twenty-eight polar scientists have worked at Severnnyy Polyus-7 for the past 8 months, i.e., since 11 April 1958. Most of them are from Leningrad, associates of the Arctic and Antarctic Institute.

N. A. Belov, chief of the station, is a noted specialist in the field of marine geology. He has made a number of important discoveries for the advancement of Soviet science.

V. I. Gerbovich, Belov's deputy, supervises the work of the meteorologists and actinometrists. Ya. M. Korpich heads the group of aerological research; I. D. Demin is in charge of the ionosphere group, and N. P. Artemenko supervises the oceanology group.

Geomagnetic observations are conducted by senior associate Ya. V. Zakharov, and the study of auroras, by scientific associate B. G. Belousov, who is spending his second winter at the station. The helicopter crew is headed by N. N. Kuznetsov; the operation of the electric power station is handled by chief mechanic N. I. Shandrovskiy; and I. M. Titovskiy is in charge of the radio station. N. P. Makarenko is the station physician, and A. K. Galkin, former chef at the "Astoria" in Leningrad, is in charge of the kitchen. "We Are Flying to the Pole"; Leningradskaya Pravda, 12 Dec 58)

#### Polish Scientific Expedition to Antarctica

The Government of the USSR has transferred the Soviet Antarctic Scientific station Oazis, without compensation, to Poland.

The following information was given to Sovetskaya Rossiya by Stefan Manczarski, academic secretary of the Polish National Committee for Conducting the IGY.

CPYRGHT

Q. Do the Polish scientists have any experience in working under polar conditions?

A. There are quite a few polar specialists among Polish scientists. At various times, six Polish expeditions have operated in the Arctic. At present, a Polish expedition is working on Spitsbergen, where observations under the IGY program are being conducted. This expedition was headed by Prof Stanislaw Sedlicki, who recently returned from the Arctic. According to Sedlicki, the Polish scientists worked in close contact with the Soviet expedition on Spitsbergen. The scientists of both countries conducted joint observations of auroras. Therefore, Poland has had some experience in work under polar conditions. So far, only two Polish scientists have been in Antarctica. At the end of the 19th Century, the Polish scientists Dobrowolski and Arcetowski were members of a Belgian expedition to the Antarctic. Since then, there have not been any Poles in the Antarctic.

Q. What kind of support is the Soviet Union giving the Polish Expedition in Antarctica?

A. The Soviet Union is placing the ship Mikhail Kalinin at the disposal of the Polish scientists, who will board the ship in Gdynia between 15 and 20 December. In addition, the Soviet Union is placing planes and helicopters at the disposal of the Poles, as well as all



the equipment at the station Oasis. The Polish Expedition consists of six scientists. The group is headed by Wojciech Krzeminski, a well-known specialist on terrestrial magnetism.

Q. What type of scientific work will the Polish specialists perform at the station Oasis?

A. The Polish scientists will continue the work of the Soviet specialists and will begin new measuring tests. The data obtained will be coordinated with the results of measurements obtained in Vietnam, where a joint Polish-Vietnamese expedition is operating. Oasis is located almost on the same magnetic longitude. The comparison will be of great interest to science. For example, it will be possible to compare at what time a magnetic storm begins in Vietnam and at Oasis. The scientists are bringing special instruments for this type of work.

For the first time, gravimetric observations will be conducted at Oasis. For this purpose, Polish designers have constructed a four-pendulum instrument, which has found the approval of Soviet specialists.

It is also planned to measure the carbon dioxide content in the air and to determine the radioactivity of precipitation.

All of these scientific observations have great significance in studying the movement of air masses on a world-wide scale.

The subsequent Polish expedition will consist of ten men. Scientific research will be expanded, especially with regard to ionospheric observations, and ozone measurements will be conducted.

The program of scientific work of the second expedition will be coordinated with the work program of Soviet scientists.

The transfer of the station Oasis to Poland by the USSR, is a new proof of the increasing friendship between the two countries.

("Polish Scientists Travel to Antarctica"; Moscow, Sovetskaya Rossiya, 11 Dec 58)

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